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ART UNIT 2877		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

**Application No.**

10/577,463

**Applicant(s)**

KAUPPINEN, JYRKI

**Examiner**

JONATHAN SKOVHOLT

**Art Unit**

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 April 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-11 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 27 April 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-893)  
Paper No(s)/Mail Date 4/27/2006  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to as being informal, for example the reference numbers and figure numbers are hand drawn. Formal drawings in compliance with 37 CFR 1.84 are required. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The disclosure is objected to because of the following informalities: the specification does not contain section headings such as "Detailed Description of the Invention". See how the specification should be arranged below.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

### ***Claim Objections***

**Claim 1-11** objected to because of the following informalities:

- It is not clear where the preamble, the transition phrase, and the body of the claims are. There should be a colon after the transition phrase and a semicolon separating each step or element of the claims. Additionally, the applicant is reminded that "where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation" (MPEP 608.01(m)).
- The examiner believes there is a typographical error, "the" is redundant and should be removed from "the said [at least one] end reflector" (7<sup>th</sup> line of claim 1).
- The examiner believes there is a typographical error and that "the" should be changed to "a" for "the second ridged structure" (line 2 p. 2 of the amendment) because there is currently no antecedent basis for the limitation.
- The examiner believes there is a typographical error and that "reflector" should be inserted after "the first angle" (7<sup>th</sup> line of claim 6).
- The examiner believes there is a typographical error and that "the" should be changed to "a" for "the first beam" and "the second beam" in claims 6 & 7. There is currently no antecedent basis for these claims limitations.
- The examiner believes there is a typographical error and that the end of claims 6 & 7. The limitation "for a single beam or a single beam" is redundant with itself.
- The examiner believes there is a typographical error and that "four plane surface" should be changed to --four plane surfaces--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claim 10** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. There are no active steps. Active steps are required to perform a method and therefore one could not perform the method of claim 10. If the method can not be performed, then the method is not enabled.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claim 1-11** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding **claim 2**, multiple ranges are given in the claim regarding the angle between the plane mirrors. Because there are multiple ranges given and these ranges are "preferable", and thus suggested, the examiner can not determine the metes and bounds of the invention. In the interest of compact prosecution and in the broadest reasonable interpretation of the claim, the angle between the reflectors is interpreted to be 72-107 degrees.

**Claims 1-11** are replete with antecedent basis errors. These errors include:

- In independent **claims 1, 10, and 11** "at least one end reflector" is recited. All the occurrences of "the end reflector" should be changed to --the at least one end reflector-- (this needs to be addressed in **claims 1, 3, 5-7, 10, & 11**). In addition any reference to "or the end reflectors" should be removed from the claims (this needs to be addressed in **claims 1, 3, 10, & 11**),
- It is not clear what "the angle reflector(s)" or "the two angle reflectors" are referring to. This could be referring to a new angle reflector, the at least one end reflector (which is comprised of an angle reflector), or the set of reflectors (which is comprised of two angle reflectors) (this need to be addressed in **claims 1-3, 5, 8-9, & 11**).
- It is not clear what "the first angle [reflector]" and "the second angle reflector" are referring to in **claims 6 & 7**. Are these new angle reflectors or are these referring to "the at least one end reflector" or "the set of reflectors"?
- It is not clear what "at least some of the reflectors" are referring to in **claim 8**. Is this referring to "the at least one end reflector", "the set of reflectors", "the angle reflector(s)", or a combination of these reflectors?

**Claim 10** is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. There are no active steps in the claim. Active steps are required to perform a method and therefore one could not perform the method of claim 10. Because there are no steps in the method, essential steps have been omitted.

### ***Claim Analysis***

**Due to the numerous errors in the claims as is mentioned above and in the interest of compact prosecution, the examiner will interpret the claims in view of the disclosure to the best of the examiner's abilities.** The following is a version of the claims overcoming the 112 issues and the claims objections as enumerated above. These claims were used as the basis for art interpretation and examination. The claims have been interpreted as such.

1. An interferometer, comprising:

- a beamsplitter;
- at least one end reflector for returning beams; and
- a set of reflectors for reflecting the beams between the beamsplitter and the at least one end reflector, at least some of said set of reflectors being adapted to be rotatable around an axis, said set of reflectors comprises two angle reflectors, constituted by plane reflectors, and wherein said at least one end reflector comprises an angle reflector constituted by plane reflectors, and that an angle line of the at least one end reflector is arranged perpendicular to an angle line of the two angle reflectors of the set of reflectors.

2. An interferometer as set forth in claim 1, wherein the angle reflector of the at least one end reflector is constituted by two plane reflectors, between which is provided an angle typically of about 72-107 degrees.

3. An interferometer as set forth in claim 1, wherein the beamsplitter and the at least one end reflector is mounted on a first rigid structure, and that at least some of said set of reflectors



being adapted to be rotatable around an axis are mounted on a second rigid structure which is adapted to be rotatable around an axis.

4. An interferometer as set forth in claim 1, wherein, said set of reflectors further comprises at least one pair of plane reflectors.

5. An interferometer as set forth in claim 4, wherein the pair of plane reflectors has its plane reflectors arranged in such a way that the beams, coming from the beamsplitter to the pair of plane reflectors, travel by way of at least one of the set of reflectors and hit the at least one end reflector perpendicularly to the angle line of the at least one end reflector, the beams reflected from the at least one end reflector returning over the same direction but laterally shifted back to the beamsplitter.

6. An interferometer as set forth in the claim 1, wherein the interferometer is arranged in such a way that a beam to be delivered to the interferometer is conductible to the beamsplitter, the beamsplitter being arranged to divide the beam into two beams, namely a first beam and a second beam, the first beam is arranged to be reflected from the beamsplitter to a first angle reflector and further towards the at least one end reflector, and to return from the at least one end reflector over the same direction but laterally shifted back to the beamsplitter, the second beam is arranged to pass through the beamsplitter and to advance to a second angle reflector and further towards the at least one end reflector, and to return over the same direction but laterally shifted back to the beamsplitter, and that the beamsplitter is arranged to combine the first and second beams returning from the at least one end reflector for a single beam.

7. An interferometer as set forth in the claim 4, wherein the interferometer is arranged in such a way that a beam to be delivered to the interferometer is conductible to the beamsplitter,

the beamsplitter being arranged to divide the beam into two beams, namely a first beam and a second beam, the first beam is arranged to be reflected from the beamsplitter to a first plane reflector, from the first plane reflector to the first angle reflector, from a first angle reflector towards the at least one end reflector, and to return from the at least one end reflector over same direction but laterally shifted back to the beamsplitter, the second beam is arranged to pass through the beamsplitter and to advance to a second plane reflector and to reflect from the second plane reflector to a second angle reflector, from the second angle reflector towards the at least one end reflector, and to return from the at least one end reflector over the same direction but laterally shifted back to the beamsplitter, the beamsplitter is arranged to combine the first and the second beams returning from the at least one end reflector for a single beam.

8. An interferometer as set forth in claim 1, wherein at least some of the at least one end reflector or the set of reflectors are produced by replication.

9. An interferometer as set forth in claim 8, wherein said two angle reflectors of said set of reflectors are formed by arranging into a one solid body four plane surfaces such that the first two of said plane surfaces are perpendicular to each other and the third and fourth of said plane surfaces are perpendicular to each other, and that a reflecting surface is produced to said plane surfaces by replication.

10. A method in an interferometer, wherein optical beams are guided using at least two angle reflectors, constituted by plane reflectors, and at least one end reflector constituted by plane reflectors, and wherein an angle line of the at least one end reflector is arranged perpendicular to an angle line the two reflectors of the set of reflectors.

11. An analyzer, comprising an interferometer, comprising; at least a beamsplitter; at least one end reflector for returning beams; and a set of reflectors for reflecting the beams between the beamsplitter and the at least one end reflector, at least some of said set of reflectors being adapted to be rotatable around an axis, said set of reflectors comprises two angle reflectors, constituted by plane reflectors, and said at least one end reflector is an angle reflector constituted by plane reflectors, and an angle line of the at least one end reflector is arranged perpendicular to an angle line of both of the angle reflectors.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Art has been applied to the claims as best understood by the examiner due to the numerous errors mentioned above.**

**Claims 1, 2, 4-8, 9 and 11** are rejected under 35 U.S.C. 102(b) as being anticipated by Tank et al. (**US Patent 5,148,235**) ("Tank").

Regarding **claim 1**, Tank teaches an interferometer, comprising:

- a beamsplitter ((1) Fig. 1);
- at least one end reflector for returning beams (stationary retroreflectors (81) & (82) are the end reflectors); and

- a set of reflectors for reflecting the beams between the beamsplitter and the at least one end reflector (rotating retroreflectors ((71), (72), (73), and (74)),
- at least some of said set of reflectors being adapted to be rotatable around an axis (the rotating retroreflectors are adapted to be rotatable around an axis),
- said set of reflectors comprises two angle reflectors, constituted by plane reflectors (the rotating retroreflectors are angled and comprised of two plane reflectors), and wherein said at least one end reflector comprises an angle reflector constituted by plane reflectors (the stationary retroreflectors are angled and comprised of two plane reflectors), and that an angle line of the at least one end reflector is arranged perpendicular to an angle line of the two angle reflectors of the set of reflectors (see Fig. 1).

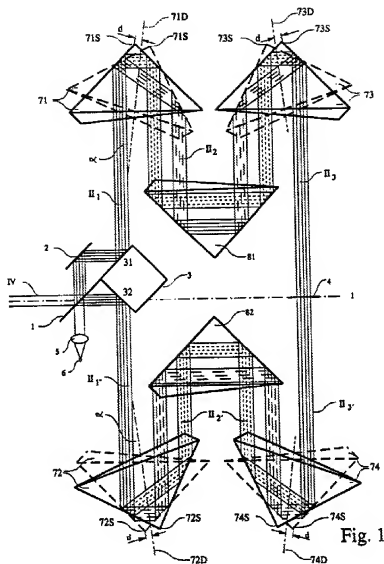


Fig. 1 from Tank et al. (US Patent 5,148,235).

Regarding **claim 2**, Tank teaches all as applied to claim 1 above, in addition Tank teaches an interferometer wherein the angle reflector of the at least one end reflector is constituted by two plane reflectors, between which is provided an angle typically of about 72-107 degrees (the

angle between the two plane reflectors of the end reflectors (81) & (82) is within this range as is shown in Fig. 1).

Regarding **claim 4**, Tank teaches all as applied to claim 1 above, in addition Tank teaches an interferometer wherein, said set of reflectors further comprises at least one pair of plane reflectors (the set of reflectors (71), (72), (73), and (74) are each comprised of a pair of plane reflectors).

Regarding **claim 5**, Tank teaches all as applied to claim 4 above, in addition Tank teaches an interferometer wherein the pair of plane reflectors has its plane reflectors arranged in such a way that the beams, coming from the beamsplitter (2) to the pair of plane reflectors (the two sides of the retroreflectors (71), (73), or (74)), travel by way of at least one of the set of reflectors (retroreflectors (71), (73), or (74)) and hit the at least one end reflector (82) perpendicularly to the angle line of the at least one end reflector, the beams reflected from the at least one end reflector returning over the same direction but laterally shifted back to the beamsplitter (the outgoing beam that is reflected by retroreflector (82) will be parallel to the incoming beam and therefore the beam will return in the same direction however the incoming and outgoing beams are laterally shifted from one another) (see Fig. 1).

Regarding **claim 6**, Tank teaches all as applied to claim 1 above, in addition Tank teaches an interferometer wherein the interferometer is arranged in such a way that a beam to be delivered to the interferometer is conductible to the beamsplitter (2), the beamsplitter being arranged to divide the beam into two beams, namely a first beam and a second beam, the first beam is arranged to be reflected from the beamsplitter to a first angle reflector (retroreflector (71)) and further towards the at least one end reflector (retroreflector (81)), and to return from

the at least one end reflector over the same direction but laterally shifted back to the beamsplitter (the outgoing beam that is reflected by retroreflector (81)) will be parallel to the incoming beam and therefore the beam will return in the same direction however the incoming and outgoing beams are laterally shifted from one another), the second beam is arranged to pass through the beamsplitter and to advance to a second angle reflector (retroreflector (72)) and further towards the at least one end reflector (retroreflector (82)), and to return over the same direction but laterally shifted back to the beamsplitter (the outgoing beam that is reflected by retroreflector (82)) will be parallel to the incoming beam and therefore the beam will return in the same direction however the incoming and outgoing beams are laterally shifted from one another), and that the beamsplitter is arranged to combine the first and second beams returning from the at least one end reflector for a single beam (the beamsplitter combines the beams after being reflected by the retroreflectors) (see Fig. 1).

Regarding **claim 7**, Tank teaches all as applied to claim 4 above, in addition Tank teaches an interferometer wherein the interferometer is arranged in such a way that a beam to be delivered to the interferometer is conductible to the beamsplitter (2), the beamsplitter being arranged to divide the beam into two beams, namely a first beam and a second beam, the first beam is arranged to be reflected from the beamsplitter to a first plane reflector (one of the reflective sides of retroreflector (71)), from the first plane reflector to the first angle reflector (retroreflector (71)), from a first angle reflector towards the at least one end reflector (retroreflector (81)), and to return from the at least one end reflector over same direction but laterally shifted (the outgoing beam that is reflected by retroreflector (81)) will be parallel to the incoming beam and therefore the beam will return in the same direction however the incoming

and outgoing beams are laterally shifted from one another) back to the beamsplitter, the second beam is arranged to pass through the beamsplitter and to advance to a second plane reflector (one of the reflective sides of retroreflector (72)) and to reflect from the second plane reflector to a second angle reflector (retroreflector (72)), from the second angle reflector towards the at least one end reflector (retroreflector (82)), and to return from the at least one end reflector over the same direction but laterally shifted back to the beamsplitter (retroreflector (82)), and to return over the same direction but laterally shifted back to the beamsplitter (the outgoing beam that is reflected by retroreflector (82) will be parallel to the incoming beam and therefore the beam will return in the same direction however the incoming and outgoing beams are laterally shifted from one another), the beamsplitter is arranged to combine the first and the second beams returning from the at least one end reflector for a single beam (the beamsplitter combines the beams after being reflected by the retroreflectors) (see Fig. 1).

Regarding **claim 8**, Tank teaches all as applied to claim 1 above, in addition Tank is silent to an interferometer wherein at least some of the at least one end reflector or the set of reflectors are produced by replication. This is a product by process claim. MPEP 2113 states that the "...determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." The Tanks teaches that the reflectors are angle reflectors comprised of plane reflectors. There is nothing different structurally between the applicants "reflectors" produced by replication and Tank's reflectors.



Regarding **claim 10**, Tank teaches a method in an interferometer, wherein optical beams are guided using at least two angle reflectors (rotating retroreflectors ((71), (72), (73), and (74)), constituted by plane reflectors (the retroreflectors are made of two plane reflectors), and at least one end reflector constituted by plane reflectors (stationary retroreflectors (81) & (82) are the end reflectors, which are made of two plane reflectors), and wherein an angle line of the at least one end reflector is arranged perpendicular to an angle line the two reflectors of the set of reflectors (see Fig. 1).

Regarding **claim 11**, Tank teaches an analyzer, comprising an interferometer, comprising;

- at least a beamsplitter ((1) Fig. 1);
- at least one end reflector for returning beams (stationary retroreflectors (81) & (82) are the end reflectors); and
- a set of reflectors for reflecting the beams between the beamsplitter and the at least one end reflector (rotating retroreflectors ((71), (72), (73), and (74)), at least some of said set of reflectors being adapted to be rotatable around an axis (the rotating retroreflectors are adapted to be rotatable around an axis), said set of reflectors comprises two angle reflectors retroreflectors, constituted by plane reflectors ((71), (72), (73), and (74) are angle reflectors that have two plane reflectors associated with each retroreflector), and said at least one end reflector is an angle reflector constituted by plane reflectors (the stationary retroreflectors are angled and comprised of two plane reflectors), and an angle line of the at least

one end reflector is arranged perpendicular to an angle line of both of the angle reflectors (see Fig. 1).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Art has been applied to the claims as best understood by the examiner due to the numerous errors mentioned above.**

**Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Tank et al. (US Patent 5,148,235) ("Tank").

Regarding **claim 3**, Tank teaches all as applied to claim 1 above, in addition Tank is silent to an interferometer wherein the beamsplitter and the at least one end reflector is mounted on a first rigid structure, and that at least some of said set of reflectors being adapted to be rotatable around an axis are mounted on a second rigid structure which is adapted to be rotatable around an axis. Tank does teach that the angle reflectors are rotatable around an axis via stepping motors (see Fig. 1, col.3 ln.24-26).

It is well known in the art that optical components are fixed to ridged structures including an optical bench. Mounting components on an optical bench allows for the components to be easily moved and aligned. It is also well known in the art that rotatable retroreflectors will be mounted on a ridged structure that can be rotated around an axis, for example an stepping motor.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to mount the beamsplitter and end reflectors on a first ridged structure, such as an optical bench, and to mount the rotating angle reflectors on a second ridged structure, the stepping motors. This arrangement will allow the rotating angled reflectors to rotate while mounting the beam splitter and end reflectors on a structure that allows these components to be easily aligned.

*Allowable Subject Matter*

**Claim 9** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

As to **claim 9**, the prior art of record, taken alone or in combination, fails to disclose or render obvious an interferometer wherein said two angle reflectors of said set of reflectors are formed by arranging into a one solid body four plane surfaces such that the first two of said plane surfaces are perpendicular to each other and the third and fourth of said plane surfaces are perpendicular to each other, in combination with the rest of the limitations of the claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

Several facts have been relied upon from the personal knowledge of the examiner about which the examiner took Official Notice in this Office Action mailed. Applicant must seasonably challenge well known statements and statements based on personal knowledge when they are made by the Board of Patent Appeals and Interferences. In re Selmi, 156 F.2d 96, 70 USPQ 197 (CCPA 1946); In re Fischer, 125 F.2d 725, 52 USPQ 473 (CCPA 1942). See also In re Boon, 439 F.2d 724, 169 USPQ 231 (CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice). If applicant does not seasonably traverse the well-known statement during examination, then the object of the well-known statement is taken to be admitted prior art. In re Chevenard, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well-known statement in the next reply after the Office action in which the well-known statement was made. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Skovholt whose telephone number is (571) 270-1303. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on (571) 272-2059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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